




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

June 25, 2007

**MEMORANDUM**

**SUBJECT:** National Remedy Review Board Recommendations for the American Creosote Works, Inc. Superfund Site

**FROM:** David E. Cooper, Chair  
National Remedy Review Board 

**TO:** Franklin Hill, Acting Director  
Superfund Division  
U.S. EPA Region 4

**Purpose**

The National Remedy Review Board (the Board) has completed its review of the proposed cleanup action for the American Creosote Works, Inc. Superfund Site in Louisville, Mississippi. This memorandum documents the Board's advisory recommendations.

**Context for Board Review**

The Administrator announced the Board as one of the October 1995 Superfund Administrative Reforms to help control response costs and promote consistent and cost-effective decisions. The Board furthers these goals by providing a cross-regional, management-level, "real time" review of high cost proposed response actions prior to their being issued for public comment. The Board reviews all proposed cleanup actions that exceed its cost-based review criteria.

The Board evaluates the proposed actions for consistency with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and relevant Superfund policy and guidance. It focuses on the nature and complexity of the site; health and environmental risks; the range of alternatives that address site risks; the quality and reasonableness of the cost estimates for alternatives; regional, state/tribal, and other stakeholder opinions on the proposed actions; and any other relevant factors.

Generally, the Board makes advisory recommendations to the appropriate regional decision maker. The Region will then include these recommendations in the administrative record for the site, typically before it issues the proposed cleanup plan for public comment.



While the Region is expected to give the board's recommendations substantial weight, other important factors, such as subsequent public comment or technical analyses of response options, may influence the Region's final decision. The Board expects the Regional decision maker to respond in writing to its recommendations within a reasonable period of time, noting in particular how the recommendations influenced the proposed cleanup decision, including any effect on the estimated cost of the action. It is important to remember that the Board does not change the Agency's current delegations or alter in any way the public's role in site decisions.

## **Overview of the Proposed Action**

The American Creosote Works, Inc. site is a former wood preserving facility that began operation in 1912 and ceased in 1997. While operating, the facility treated wood using creosote oil and coal tar solutions. From approximately 1985 to 1988, the facility also used pentachlorophenol. Until the 1980s, the facility used three unlined lagoons/ponds for discharge of creosote waste. One of the lagoons leaked creosote into adjacent Hughes Creek. Railroad Lake, to the north, also contains creosote waste. The southern portion of the site once contained a large pile of wood chips, which were reportedly mixed with waste creosote and sludge from the tanks and cylinders used at the facility. The Region's preferred alternative includes excavation, consolidation, and capping of soil and sediment, and vertical barrier wall containment for the contaminated ground water. Under the preferred alternative, excavated soil/sediment would be treated using solidification/stabilization to form a 3-foot soil/cement subcap, which would then be covered with clean soil and cover approximately 27 acres. The containment system for the ground water would likely be a soil-bentonite slurry wall located at the perimeter of the 27 acres and would be keyed to a low permeability portion of the Middle Wilcox Aquifer. Ground water outside of the slurry wall is not expected to require remediation to meet ARARs and health-based targets.

## **NRRB Advisory Recommendations**

The Board reviewed the information package describing this proposal and discussed related issues with Mike Arnett and Derek Matory of your staff on June 7, 2007. Based on this review and discussion, the Board offers the following comments:

1. Information presented to the Board indicates that, based on further evaluation of ground water and subsurface soil contamination, the footprint of the barrier wall may decrease; or alternatively, two smaller walls may be constructed. Selection of alternative S2A may also result in a smaller barrier wall. The Board recommends that the Region continue to evaluate ways to reduce the size of the areas that will be capped by minimizing the size of the barrier wall or constructing two smaller barrier walls. However, the Board also recognizes that given the nature of the contaminants and extent of contamination at the site, it will be difficult to determine whether all significant sources of ground water contamination can be identified or whether some will remain beyond the proposed barrier wall.

2. Based on information presented, the Board does not believe that alternative S2, which incorporates a soil/cement cap, is necessary to achieve a protective remedy for site soils. Alternative S2A, which utilizes a geosynthetic clay liner composite cap, should be able to effectively contain contaminated site soils at significantly less cost (i.e., a present worth cost difference of \$12 million). Based on the information in the package, it appears that the Region is considering the higher cost alternative in part to facilitate reuse of the site. The Board believes that there are potential betterment/enhancement issues associated with the Region's preferred approach. If there is a betterment/enhancement, the associated incremental costs should not be borne by EPA; rather, any additional costs to promote redevelopment should be the responsibility of other parties (e.g., State, town, developer). Additionally, it is not clear to the Board that the soil/cement cap would enhance the reuse potential of the site.

3. The Board notes that the human health and ecological risk assessment as presented in the package provides insufficient detail to understand fully the risks presented by the site. Among other issues: 1) hazard indices for adults and children should not be added together; 2) hazard indices should be separated out by target organ; 3) the industrial/commercial exposure scenario should be presented; 4) human health risks associated with sediments should be considered since people could come in contact with these sediments; and, 5) soil cleanup goals for ground water protection should be consistent with the ground water contaminants of concern. The Board recommends that the Region review the risk assessment for accuracy and provide additional detail on risk to support the proposed remedial action in the decision documents.

4. The package presented to the Board indicated that remediation is justifiable based on ecological risk. However, the Region's evaluation of remedial alternatives did not indicate the extent of remediation that would be required to meet ecologically-based remediation goals. The Board recommends the Region include in the decision documents a more detailed presentation of the area and volumes of soil and other material at the site that need to be addressed due to ecological risk.

5. The selected ecologically-based remedial goal for sediments is 100 mg/kg total PAHs and for soils is 2,700 mg/kg. The Board recommends that the decision documents discuss the issue of potential for recontamination of sediments from residual soil contamination and explain how protectiveness will be maintained throughout the site.

6. The package presented to the Board indicates that an ecologically-based remedial goal of 0.0003 mg/kg of dioxin-TEQ may be selected. The Agency policy states that generally 0.001 mg/kg dioxin-TEQ is protective of human health and the environment. The Board recommends that the Region reevaluate the need to develop a remediation goal based on dioxin-TEQ if existing concentrations are below potential goal concentrations.

7. The package states that the proposed soil disposal area and barrier wall may be located within the 100-year flood plain (p. 38 of the package). However, the package did not identify the location of the 100-year floodplain with respect to the site. The package also notes that this may require waivers associated with the Executive Order for wetland and floodplains. The Board

notes that Executive Orders are not applicable or relevant and appropriate requirements (ARARs) and, therefore, a waiver is not available. Additionally, the Board recommends that the Region review other potential siting requirements that may constitute ARARs (e.g., RCRA location standards) which could impact the final location of the soil disposal area/cap/barrier wall. Finally, if the floodplain impacts result from the proposed remedial action, floodplain compensation areas should be identified and associated costs estimated in the decision documents.

8. The package indicated that some soil remediation goals are based on ground water protection cleanup values using the EPA Region 9 ground water protection values. While not specified in the package, the Board suspects that these were developed assuming a dilution attenuation factor (DAF) of 1. The Board notes that this may represent a very conservative assumption for this site and may not be appropriate. The Board suggests that the Region evaluate whether this assumption is reasonable for this site in lieu of a site-specific value taking into consideration relevant factors (e.g., organic carbon content, water solubility, depth to ground water, ground water velocity). The Region also should consider whether changing the DAF would impact soil remediation goals, and consequently, the cleanup volumes and costs, and whether more realistic assumptions should be developed. The Board recommends that the volume of soil to be addressed for ground water protection, as opposed to direct contact human health risk or ecological risk, should be described in the decision documents.

9. The Board recommends that the proposed plan clearly identify the institutional controls (ICs) associated with each alternative under consideration. This approach will allow the community to provide more meaningful comments on the ICs, as well as the other components of the alternatives. The Region should consider whether the preferred alternative should include provisions for preventing residential use of the entire site property, preventing use or exposure to ground water in the proposed containment structure, and protecting components of the constructed remedy. Based on the information presented to the Board, it is not clear whether restrictions on ground water use outside the containment system are required.

10. Numerous unit costs (e.g., excavation, geosynthetic clay liner) appear to differ significantly from unit costs for sites elsewhere in the Region. The Board recommends that the Region reevaluate unit costs to ensure they are accurate. For example, unit costs for stabilization and solidification should be better defined and refined.

11. The soil/sediment alternatives include excavation of sediments from Railroad Lake and Hughes Creek. The associated cost estimates provide for excavation and dewatering, but do not appear to cover draining Railroad Lake or potentially treating surface water. There is also no discussion in the package about reestablishing the lake and dam, or alternately reestablishing the drainage pattern. The Board recommends that the decision documents describe the remediation planned for the lake area and include appropriate line items in the cost estimates.

12. The package presented to the Board did not discuss the State Classification of the Middle Wilcox Aquifer and its relevance to remedial action objectives (RAOs) for ground water at the

site. The Region indicated at the meeting that the State considers all ground water to be potential sources of drinking water. The Board recommends that the Region clarify whether ground water outside of the proposed containment area meets drinking water standards and if not, how the remedy will address that area

13. The package was unclear about which specific ARARs for soil and ground water the remedy has to meet. The Region should describe in the decision documents what the ARARs are for the site and how they will be met or waived.

14. The Board notes that no comments on any aspect of the recommended cleanup plan were provided by any of the Stakeholders (i.e., State, County, City, or residents), but encourages the Region to continue involvement of the stakeholders in the remedy selection process.

The Board appreciates the Region's efforts in working together with the potentially responsible parties, State, and community groups at this site. We request that a draft response to these findings be included with the draft Proposed Plan when it is forwarded to your OSRTI Regional Support Branch for review. The Regional Support Branch will work with both me and your staff to resolve any remaining issues prior to your release of the Proposed Plan. Once your response is final and made part of the site's Administrative Record, then a copy of this letter and your response will be posted on the Board website (<http://www.epa.gov/superfund/programs/nrrb/>).

Thank you for your support and the support of your managers and staff in preparing for this review. Please call me at (703) 603-8763 should you have any questions.

cc: J. Woolford (OSRTI)  
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NRRB members